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SEQUENCE LISTING

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<120> METHOD FOR PRODUCING UNSATURATED OMEGA-3-FATTY ACIDS IN
 TRANSGENIC ORGANISMS

<130> 13987-00019-US

<150> PCT/EP2005/001865

<151> 2005-02-23

<150> DE 10 2004 009 458.6

<151> 2004-02-27

<160> 6

<170> PatentIn version 3.3

<210> 1

<211> 1086

<212> DNA

<213> Phytophthora infestans

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<221> CDS

<222> (1)..(1086)

<223> Omega-3-desaturase

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cgg tcg cta cct aaa gac tgt ttc gag gct tcg gtg cct ctg tcg ctc	96
Arg Ser Leu Pro Lys Asp Cys Phe Glu Ala Ser Val Pro Leu Ser Leu	
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tac tac acc gtg cgt tgt ctg gtg atc gcg gtg gct cta acc ttc ggt	144
Tyr Tyr Thr Val Arg Cys Leu Val Ile Ala Val Ala Leu Thr Phe Gly	
35 40 45	
ctc aac tac gct cgc gct ctg ccc gag gtc gag agc ttc tgg gct ctg	192
Leu Asn Tyr Ala Arg Ala Leu Pro Glu Val Glu Ser Phe Trp Ala Leu	
50 55 60	
gac gcc gca ctc tgc acg ggc tac atc ttg ctg cag ggc atc gtg ttc	240
Asp Ala Ala Leu Cys Thr Gly Tyr Ile Leu Leu Gln Gly Ile Val Phe	
65 70 75 80	
tgg ggc ttc ttc acg gtg ggc cac gat gcc ggc cac ggc gcc ttc tcg	288
Trp Gly Phe Phe Thr Val Gly His Asp Ala Gly His Gly Ala Phe Ser	
85 90 95	
cgc tac cac ctg ctt aac ttc gtg gtg ggc act ttc atg cac tcg ctc	336
Arg Tyr His Leu Leu Asn Phe Val Val Gly Thr Phe Met His Ser Leu	
100 105 110	
atc ctc acg ccc ttc gag tcg tgg aag ctc acg cac cgt cac cac cac	384
Ile Leu Thr Pro Phe Glu Ser Trp Lys Leu Thr His Arg His His His	
115 120 125	

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Lys Asn Thr Gly Asn Ile Asp Arg Asp Glu Val Phe Tyr Pro Gln Arg
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aag gcc gac gac cac ccg ctg tct cgc aac ctg att ctg gcg ctc ggg      480
Lys Ala Asp Asp His Pro Leu Ser Arg Asn Leu Ile Leu Ala Leu Gly
145                               150                               155                               160
gca gcg tgg ctc gcc tat ttg gtc gag ggc ttc cct cct cgt aag gtc      528
Ala Ala Trp Leu Ala Tyr Leu Val Glu Gly Phe Pro Pro Arg Lys Val
165                               170                               175
aac cac ttc aac ccg ttc gag cct ctg ttc gtg cgt cag gtg tca gct      576
Asn His Phe Asn Pro Phe Glu Pro Leu Phe Val Arg Gln Val Ser Ala
180                               185                               190
gtg gta atc tct ctt ctc gcc cac ttc ttc gtg gcc gga ctc tcc atc      624
Val Val Ile Ser Leu Leu Ala His Phe Phe Val Ala Gly Leu Ser Ile
195                               200                               205
tat ctg agc ctc cag ctg ggc ctt aag acg atg gca atc tac tac tat      672
Tyr Leu Ser Leu Gln Leu Gly Leu Lys Thr Met Ala Ile Tyr Tyr Tyr
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gga cct gtt ttt gtg ttc ggc agc atg ctg gtc att acc acc ttc cta      720
Gly Pro Val Phe Val Phe Gly Ser Met Leu Val Ile Thr Thr Phe Leu
225                               230                               235                               240
cac cac aat gat gag gag acc cca tgg tac gcc gac tcg gag tgg acg      768
His His Asn Asp Glu Glu Thr Pro Trp Tyr Ala Asp Ser Glu Trp Thr
245                               250                               255
tac gtc aag ggc aac ctc tcg tcc gtg gac cga tcg tac ggc gcg ctc      816
Tyr Val Lys Gly Asn Leu Ser Ser Val Asp Arg Ser Tyr Gly Ala Leu
260                               265                               270
att gac aac ctg agc cac aac atc ggc acg cac cag atc cac cac ctt      864
Ile Asp Asn Leu Ser His Asn Ile Gly Thr His Gln Ile His His Leu
275                               280                               285
ttc cct atc att ccg cac tac aaa ctc aag aaa gcc act gcg gcc ttc      912
Phe Pro Ile Ile Pro His Tyr Lys Leu Lys Lys Ala Thr Ala Ala Phe
290                               295                               300
cac cag gct ttc cct gag ctc gtg cgc aag agc gac gag cca att atc      960
His Gln Ala Phe Pro Glu Leu Val Arg Lys Ser Asp Glu Pro Ile Ile
305                               310                               315                               320
aag gct ttc ttc cgg gtt gga cgt ctc tac gca aac tac ggc gtt gtg      1008
Lys Ala Phe Phe Arg Val Gly Arg Leu Tyr Ala Asn Tyr Gly Val Val
325                               330                               335
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Asp Gln Glu Ala Lys Leu Phe Thr Leu Lys Glu Ala Lys Ala Ala Thr
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65	70	75
Trp Gly Phe Phe Thr Val Gly His Asp Ala Gly His Gly Ala Phe Ser		80
	85	90
Arg Tyr His Leu Leu Asn Phe Val Val Gly Thr Phe Met His Ser Leu		95
	100	105
Ile Leu Thr Pro Phe Glu Ser Trp Lys Leu Thr His Arg His His His		110
	115	120
Lys Asn Thr Gly Asn Ile Asp Arg Asp Glu Val Phe Tyr Pro Gln Arg		125
	130	135
Lys Ala Asp Asp His Pro Leu Ser Arg Asn Leu Ile Leu Ala Leu Gly		140
145	150	155
Ala Ala Trp Leu Ala Tyr Leu Val Glu Gly Phe Pro Pro Arg Lys Val		160
	165	170
Asn His Phe Asn Pro Phe Glu Pro Leu Phe Val Arg Gln Val Ser Ala		175
	180	185
Val Val Ile Ser Leu Leu Ala His Phe Phe Val Ala Gly Leu Ser Ile		190
	195	200
Tyr Leu Ser Leu Gln Leu Gly Leu Lys Thr Met Ala Ile Tyr Tyr Tyr		205
	210	215
Gly Pro Val Phe Val Phe Gly Ser Met Leu Val Ile Thr Thr Phe Leu		220
225	230	235
His His Asn Asp Glu Glu Thr Pro Trp Tyr Ala Asp Ser Glu Trp Thr		240
	245	250
Tyr Val Lys Gly Asn Leu Ser Ser Val Asp Arg Ser Tyr Gly Ala Leu		255
	260	265
Ile Asp Asn Leu Ser His Asn Ile Gly Thr His Gln Ile His His Leu		270
	275	280
Phe Pro Ile Ile Pro His Tyr Lys Leu Lys Lys Ala Thr Ala Ala Phe		285
	290	295
His Gln Ala Phe Pro Glu Leu Val Arg Lys Ser Asp Glu Pro Ile Ile		300
305	310	315
Lys Ala Phe Phe Arg Val Gly Arg Leu Tyr Ala Asn Tyr Gly Val Val		320
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